

FIG. 1

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	ONE SECTOR (PHYSICAL SECTOR)								
PREVIOUS SECTOR	HEADER (EMBOSS)	SYNCHRO- NIZATION CODE	MODU- LATED SIGNAL		SYNCHRO- NIZATION CODE	MODU- LATED SIGNAL	HEADER OF NEXT SECTOR		

FIG. 2

	ONE ECC BLOCK 502									
(CLUSTER OF 16 SECTORS = 32 kB)										
	SECTOR	SECTOR	SECTOR		SECTOR	SECTOR				
501s	501a	501b	501c		501p	501q				

FIG. 3

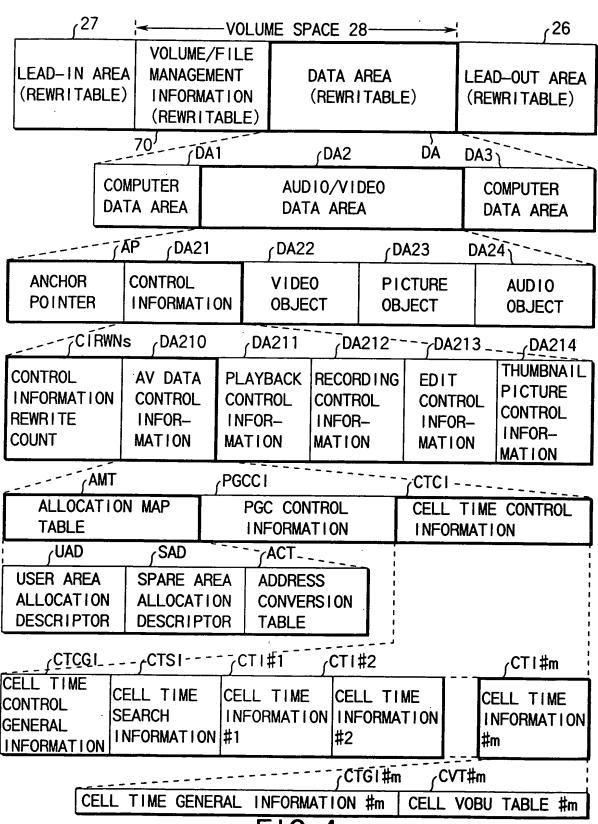


FIG. 4

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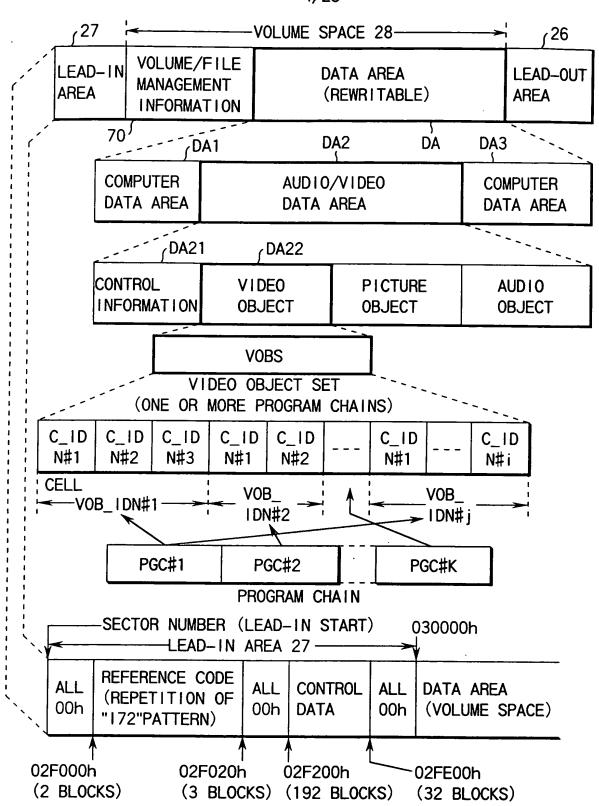


FIG.5

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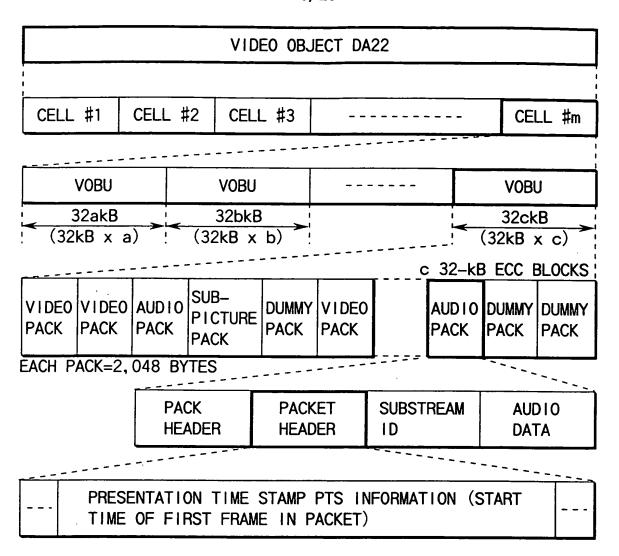


FIG. 6

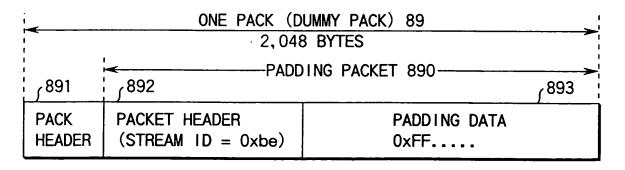


FIG. 7

						_		_			_	
NUMBER PICTUR IN VOB	RES I	NUMBER PICTURI IN VOBI	ES		PICT	BER OURES		PIC	BER OF TURES /OBU#1		PIC	BER OF TURES VOBU#n
							. ـ ـ					
CELL TIME CELL SET TIME CONSTICODE ACQUI- DEFI								ACQUI- RED DEFECT ADDRESS				
REFERRED TO AS EXTENT												
GENERA INFOR-	CELL DATA GENERAL INFOR- MATION TIME CODE TABLE INFOR- MATION						ELL IDE NFOI	0 R–	R- INFOR- INFOR			B- CTURE FOR-
CELL T	IME IN	NFORMAT	TION	CTI	#m 		. = =	-e=	=====			
CELL T	IME G	ENERAL	INF	ORMA	TION	#m	CI	ELL	VOBU	TABLE	#m	
VOBU VOBU VOBU INFORMATION INFORMATION #1 #2												
									<u></u>			-
VOBU GENERAL DUMMY PACK SYNCHRONIZ INFORMATION							ΓΙΟΝ].				

FIG.8

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	T	1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	
CORRESPONDING	INFORMATION	INFORMATION	NUMBER OF
INFORMATION	NAME	CONTENTS	BYTES USED
VOBU GENERAL	I-PICTURE	DIFFERENTIAL ADDRESS VALUE OF	1
INFORMATION	END	I-PICTURE END POSITION FROM	1
	POSITION	VOBU START POSITION	
DUMMY PACK	NUMBER OF	NUMBER OF DUMMY PACKS IN VOBU	1
INFORMATION	DUMMY PACKS		
	DUMMY PACKS	DUMMY PACK INSERTION	$2 \times DUMMY$
	DISTRIBUTION		
		OF VOBU, AND EACH NUMBER OF	NUMBER
		DUMMY PACKS (2 BYTES EACH)	
AUDIO	AUDIO STREAM	NUMBER OF CHANNELS OF AUDIO	1
	CHANNEL NUMBER	STREAM	
INFORMATION	I-PICTURE	DIFFERENTIAL ADDRESS VALUE OF	1
	AUD10	SECTOR INCLUDING AUDIO PACK OF	
]	POSITION #1	THE SAME TIME AS I-PICTURE	
1		START TIME FROM START OF VOBU	
	l	(MSB = "0" : LOCATED BEFORE	
		VOBU, MSB = "1" : LOCATED AFTER	
	i	VOBU)	
	I-PICTURE	INDICATE SAMPLE NUMBER OF AUDIO	2
	START AUDIO	SAMPLE POSITION OF THE SAME	
	SAMPLE	TIME AS I-PICTURE START TIME IN	
	NUMBER #1	SECTOR AS COEFFICIENT OF SERIAL	
		NUMBERS OF ALL AUDIO PACKS	
	AUDIO	PRESENCE/ABSENCE OF	1
	SYNCHRONIZATION	SYNCHRONIZATION INFORMATION	
	INFORMATION	BETWEEN AUDIO AND VIDEO STREAMS	
	FLAG #1	(NEXT ITEM IS NOT AVAILABLE IF	
		ABSENT)	
		THE NUMBER OF AUDIO SAMPLES	2
		INCLUDED IN VOBU	
	DATA	, , , , , , , , , , , , , , , , , , ,	<u> </u>
İ	I-PICTURE AUDIO	POSITION #2	1
		AUDIO SAMPLE NUMBER #2	2
	AUDIO SYNCHRONIZ	ZATION FLAG #2	1
	AUDIO SYNCHRONIZ		2
		1	

FIG.9

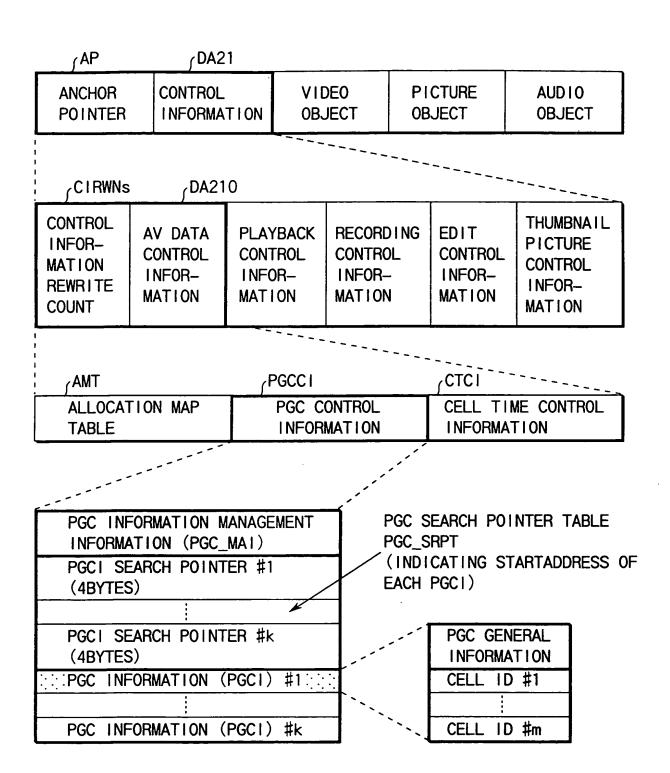


FIG. 10

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POSITIONS OF SHIFT PRODUCED BETWEEN ECC BLOCK BOUNDARY AND VOBU BOUNDARY

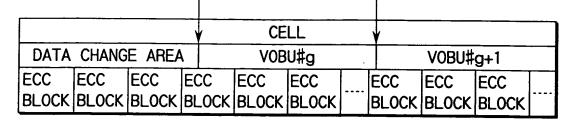


FIG. 11

SHIFT-REMOVED POSITIONS BETWEEN BOUNDARIES OF ECC AND VOBU

		· · · · · · · · · · · · · · · · · · ·	,	CELI	_	,		·		
DATA CHANGE AREA VOBU#g							VOBU#	g+1		
ECC BLOCK	ECC BLOCK				ECC BLOCK				ECC BLOCK	

FIG. 12

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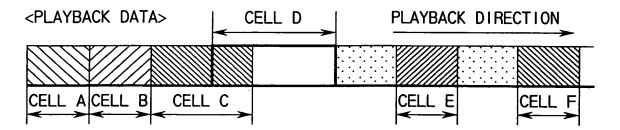


FIG. 13

PGC INFORMATION

PG	C#1	PG	C#2	PG	C#3
NUMBER (OF CELLS	NUMBER (OF CELLS	NUMBER (OF CELLS
CELL#1	CELL A	CELL#1	CELL D	CELL#1	CELL E
CELL#2	CELL B	CELL#2	CELL E	CELL#2	CELL A
CELL#3	CELL C	CELL#3	CELL F	CELL#3	CELL D
				CELL#4	CELL B
				CELL#5	CELL E

FIG. 14

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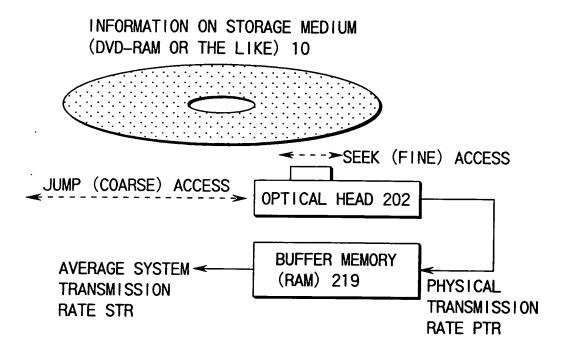


FIG. 15

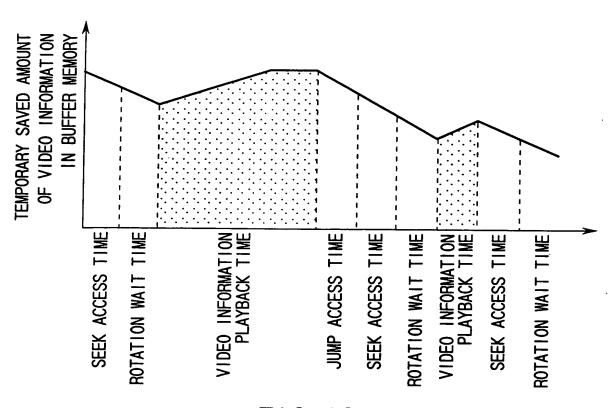
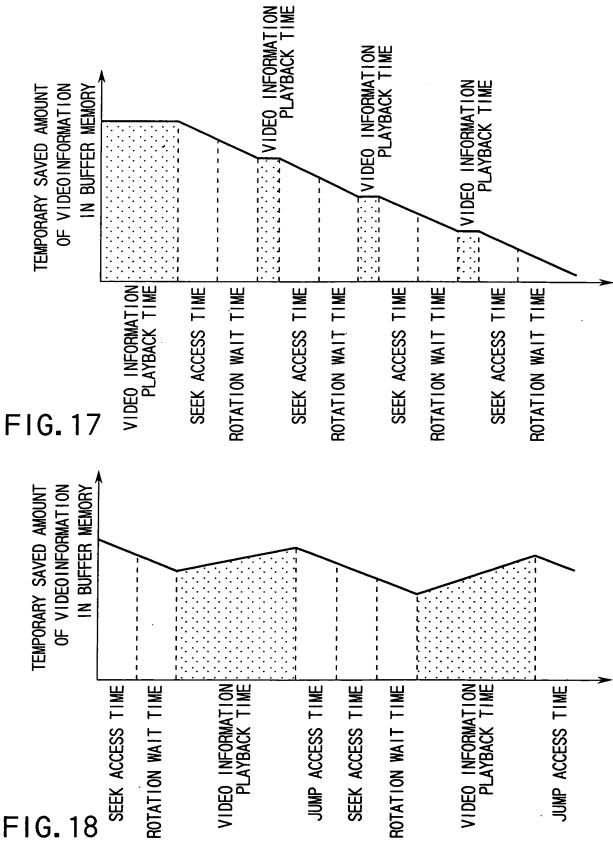


FIG. 16

OBLON, SPIVAK, et al. DOCKET NO: 249791US2S DIV INVENTOR: Hideo ANDO, et al. SHEET 12 of 25 12/25 VIDEO INFORMATION PLAYBACK TIME VIDEO INFORMATION PLAYBACK TIME ROTATION WAIT TIME SEEK ACCESS TIME



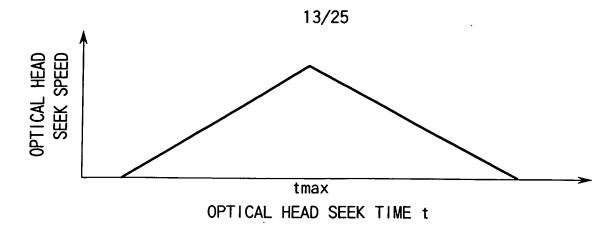


FIG. 19

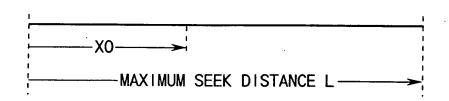


FIG. 20

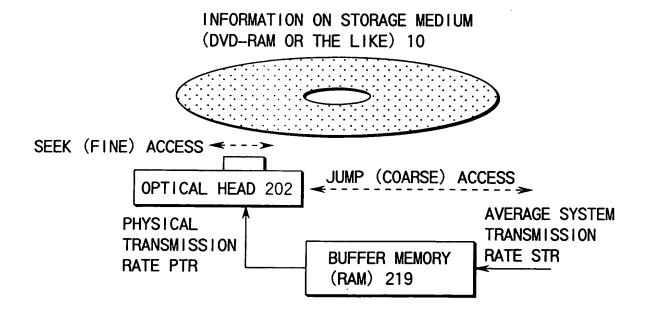


FIG. 21

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FREE AREA 107	С	ELL #	1	CELL #2				CELL #3			
				VOBU VOBU VOBU VOBU 108d 108e 108f 108g							

FIG. 22

FREE AREA 107	CELL #1		CELL #2A	•	CELL #2B			CELL #3			
	V0BU 108a	V0BU 108b	V0BU	V0BU 108d	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	OBU Q8e	VOBU 108f	V0BU 108g	V0BU 108h	V0BU 108 i	VOBU 108 j

FIG. 23

CELL #2A	С	ELL #	1	CELL #2B			С	ELL #3			
VOBU VOBU	V0BU	V0BU	V0BU	VOBU;	VOBU	V0BU	V0BU	V0BU	VOBU		
108d* 108p	108a	108b	108c*	108q;	108f	108g	108h	108 i	108 j		

FREE AREA 106

FIG. 24

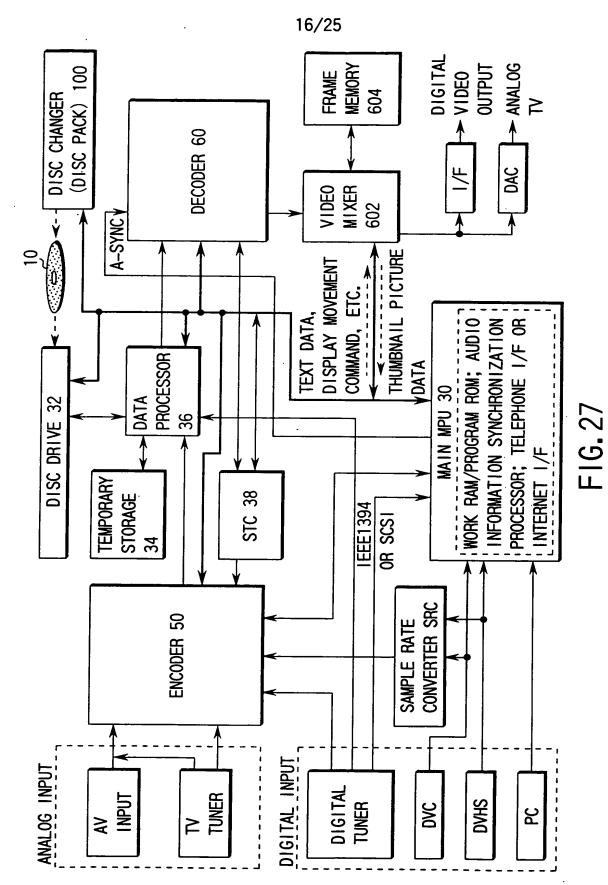
INVENTOR: Hideo ANDO, et al. SHEET 15 of 25 15/25 VIDEO INFORMATION PLAYBACK TIME VIDEO INFORMATION

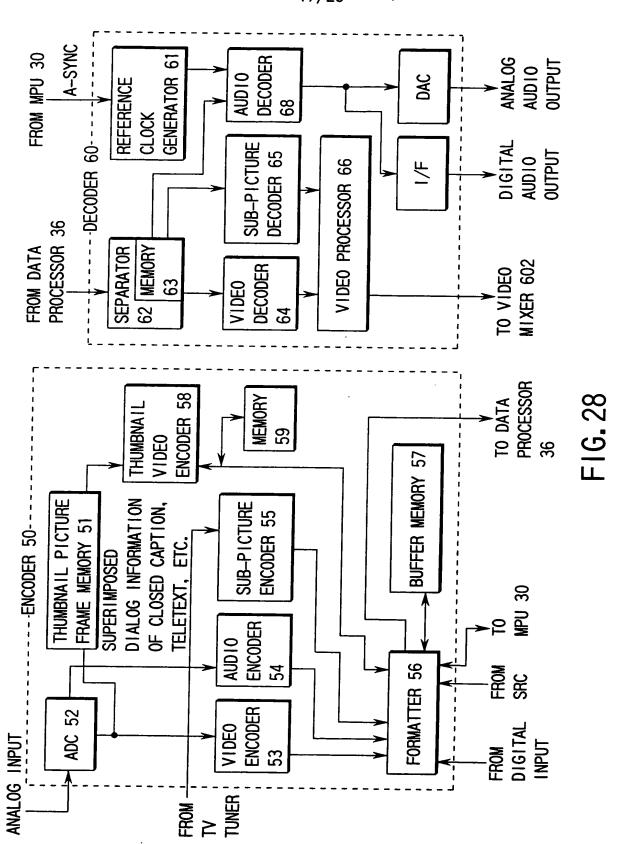
PLAYBACK TIME VIDEO INFORMATION PLAYBACK TIME IN BUFFER MEMORY TEMPORARY SAVED AMOUNT OF VIDEOINFORMATION SEEK ACCESS TIME VIDEO INFORMATION RECORDING TIME SEEK ACCESS TIME ROTATION WAIT TIME ROTATION WAIT TIME SEEK ACCESS TIME ROTATION WAIT TIME SEEK ACCESS TIME ROTATION WAIT TIME FIG. 25 OF VIDEOINFORMATION IN BUFFER MEMORY TEMPORARY SAVED AMOUNT SEEK ACCESS TIME VIDEO INFORMATION RECORDING TIME VIDEO INFORMATION RECORDING TIME ROTATION WAIT TIME JUMP ACCESS TIME SEEK ACCESS TIME ROTATION WAIT TIME JUMP ACCESS TIME FIG. 26

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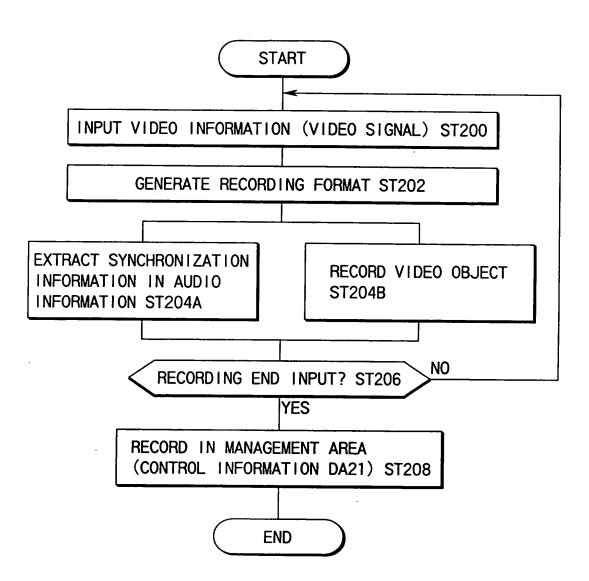
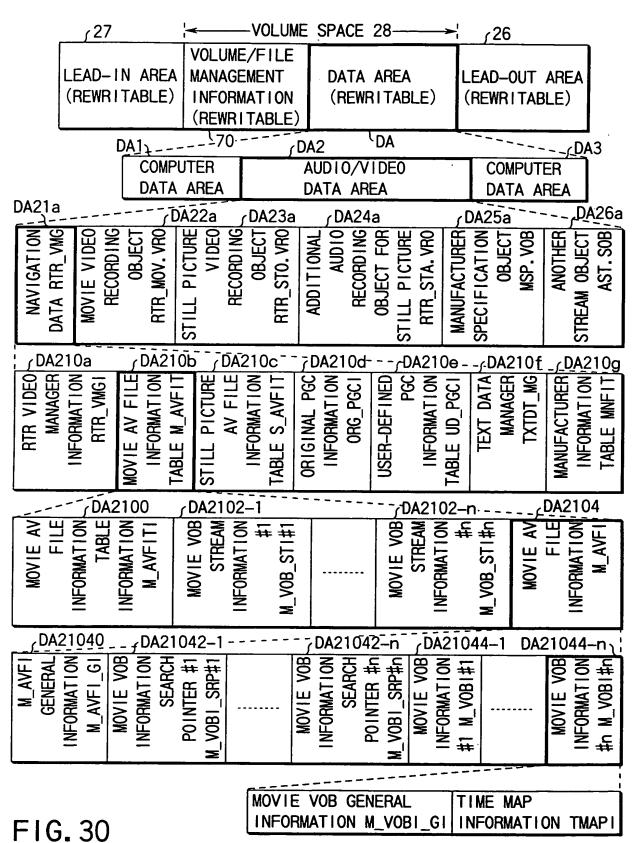


FIG. 29



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				<u> </u>	0) (: -		<u> </u>							
									IERAL I_VOB I		IME NFOR		NP NTION T	MAPI
TIME MAP GENERAL INFORMAT TMAP_GI	SENERAL IIME NFORMATION ENTRY #1				TIM ENT TM_	RY		EI	OBU NTRY ‡ OBU_EN			E	/obu Entry # /obu_en	
VOBU ENTRY #1 VOBU#1 VOBU#4 VOBU#4 VOBU#4 VOBU#4														
VOBU#1 1STREF _SZ		Vobu# Vobu _sz	:1				3U#q TREF Z	1	BU#q BU_PE I	3	VOBU VOBU _SZ	• •		
	NUMBER OF PICTURES OF VOBU #1 NUMBER OF PICTURES OF VOBU #2								10101717-1	SIZE OF VOBU#2				
CTG1#	-m (C	GENER CELL DA ON/TIM	TA (GENER	AL				(VO	L VOE BU GE ORMAT	NER4	۱L	E CVT	m
													∠CT1#r	n :
CELL TIME CONTROL GENERAL INFORMATION SEARCH INFORMATION CELL TIME SEARCH INFORMATION HINFORMATION						+	CELL TIME	INFORMATION	#5				CELL TIME	
							(CT	CI					
ALLOC MAP 1				C CON FORMA			CEI	L	TIME RMATIC		ROL			
CORRESPO	CORRESPONDING TO AV DATA CONTROL INFORMATION DA210													

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TIME MAP GENERAL INFORMATION TMAP_GI

RELATIVE BYTE POSITION	FIELD NAME	CONTENTS	NUMBER OF BYTES
0-1	TM_FNT_Ns	NUMBER OF TIME ENTRIES	2
2–3	VOBU_ENT_Ns	NUMBER OF VOBU ENTRIES	2
4–5	TM_OFS	TIME OFFSET	2
6–9	ADR_OFS	ADDRESS OFFSET	4

FIG. 32

TIME ENTRY TM_ENT

RELATIVE BYTE POSITION	FIELD NAME	CONTENTS	NUMBER OF BYTES
0–1	VOBU_ENTN	VOBU ENTRY NUMBER	2
2	TM_DIFF	TIME DIFFERENCE	1
3–6	VOBU_ADR	TARGET VOBU ADDRESS	4

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					_	-, - `									
DATA AREA (REWRITABLE) DA															
RTR MOB.VRO DA22a-1		COMPUTER DATA FILE			RTR MOB. VRO DA22a-2			RTR STO. VRO DA23a-1			RTR MOB. VRO DA22a-3				
EXTENT /SET #A		EXTENT /SET #B			EXTENT /SET #C			EXTENT /SET #D			EXTENT /SET #E				
LBN = LOGICAL BLOCK NUMBER															
V_PCK LBN·a SP PCK LBN·a+q	Ã	V_PCK LBN·a+b-1	PC_DAT LBN·a+b	V_PCK LBN·c	Ş		V_PCK LBN·c+d-1	V_PCK LBN·c+d		A_PCK LBN·e-1	V_PCK LBN·e		V_PCK LBN·e+h		A_PCK LBN·e+f-1
M·ADR = MOVIE ADDRESS STILL PICTURE ADDRESS													FSS		
M·ADR g	M-ADR	M-ADR b-1	M-ADR b	M-ADR b+h		M-ADR b+f-1	M-ADR b+f	PCK M·ADR b+f+1		M-ADR b+f+d-1			ST-ADR o		ST.ADR e-c-d
V_PCK	V_PCK	V_PCK	V_PCK	V_PCK		A_PCK	V_PCK	V_PCK		V_PCK			V_PCK		A_PCK
VOBU#1 VOE		3U#2 VOBU#:		U#3	3 VOBU#4			VOBU#5				VOB			
VIDE	B# α		VOB#			B				ENTRY					
		BU_ VOBU_ _TM PB_TM		_	VOBU_ PB_T M			VOBU_ PB_TM					VOB GROUP		
TIME DIFFERENCE TIME ENTRY POINT TM_DIFF															

FIG. 34

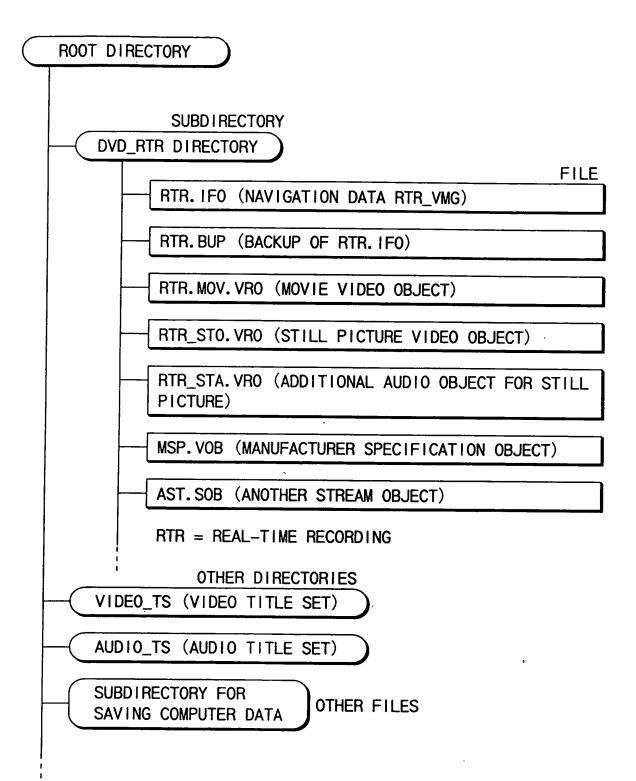


FIG. 35

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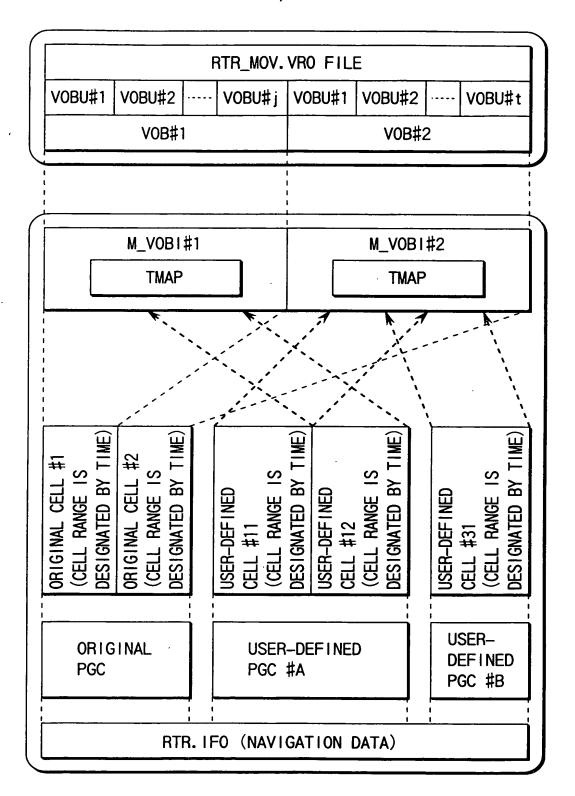


FIG. 36

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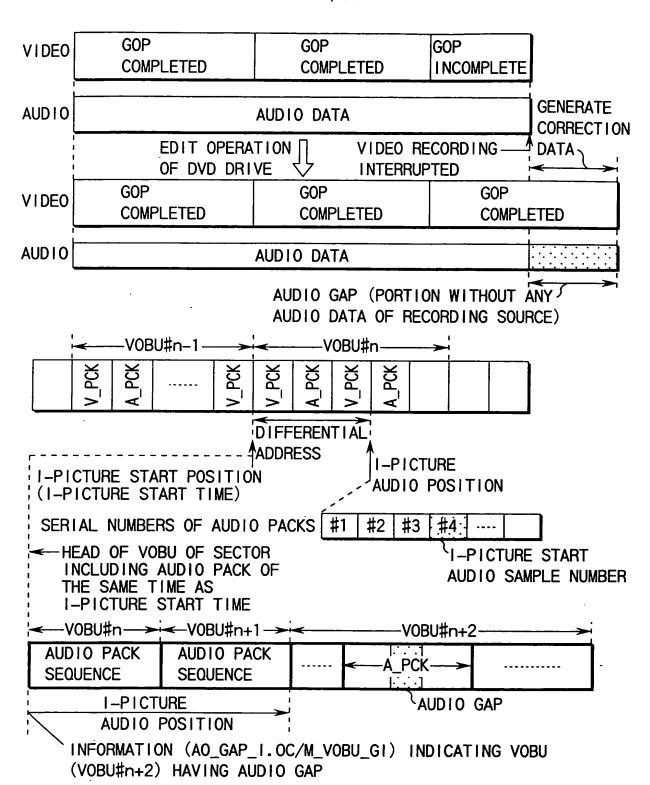


FIG. 37